

REMARKS

Claims 1-17 currently are pending. Claims 1, 2, 3 and 4 have been amended.

On 11/29/01, applicants filed a reply to the final office action dated 8/24/01. The examiner issued an advisory action dated 2/2/02 stating that the proposed amendments will not be entered because they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal.

Applicants herein submit a Request for Continued Examination (RCE) with the present amendment. If the conditions for filing an RCE have been satisfied, any previously filed unentered amendments, amendments filed with the RCE and any amendments filed prior to the mailing of the next Office action (after the RCE) will normally be entered. MPEP § 706.07(h). Applicants make amendments to the present set of claims which is the set resulting from the response filed on 11/29/01.

35 USC § 112, second paragraph

In the advisory action dated 2/2/02, the examiner stated that while applicants' proposed amendments to claims 2 and 10 would overcome the rejection of claim 2 under 35 USC § 112, second paragraph and the objection to claim 10, the amendments do not serve to put the case in better shape for appeal. Applicants believe these rejections are overcome with the present reply since applicants herein submit an RCE to have the amendments entered.

35 USC § 101

The examiner maintained the rejection of claims 1-4 under 35 USC § 101 because the claimed invention is directed to non-statutory subject matter. The examiner stated that the claims do not recite that the gene or amino acid sequence has been isolated from or otherwise altered from its naturally-occurring form in nature in an *Ashbya gossypii* cell. In the advisory action dated 2/2/02, the examiner states that applicants' proposed amendments to claims 1 and 2 do not overcome the rejection under 35 USC § 101 for two reasons. First, it is not clear in claims 1 and 2 whether only the homologs are isolated from microorganisms or whether the gene having SEQ ID NO: 1 is also isolated. Second, since claims 3 and 4 have not been amended to claim "an isolated amino acid sequence," these claims still read on a product of nature.

To overcome the rejections, applicants limit claim 1 to the "gene having SEQ ID NO: 1" and add a dependent claim 16 directed to the homologs. Applicants similarly amend claim 2 and add as dependent claim 17. Applicants amend claims 3 and 4 to recited "an isolated amino acid sequence."

35 USC § 112, first paragraph (Written description)

Applicants had argued in the last response that since SEQ ID NO: 1 is disclosed, the sequence of homologs having at least 80% homology is also disclosed because a person skilled in the art knows that a particular sequence easily can be modified by genetic engineering to yield homologs which do not affect the activity of the corresponding protein.

The examiner responds by stating that one of ordinary skill in the art would only know how to make such changes if a structure-function correlation were taught in the specification.

An objective standard for determining compliance with the written description requirement is, "does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed." *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989). One of ordinary skill in the art should be able to isolate functionally active 80% homologs because of the teachings in the specification. Such homologs are disclosed in the specification on page 3 (lines 26 to 44) and page 4 (lines 1 to 7).

Example 9 teaches the construction of an *Ashbya gossypii* ura3 minus mutant. The mutant allows one of ordinary skill in the art to isolate the functionally active homologs by using the method disclosed in example 11. Only functionally active homologs can be isolated by this method.

In view of the late receipt of the previous amendment (mailed on November 29, 2001, but not received by the US PTO until January 24, 2002), it is believed that no further extension fees should be necessary.

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any excess fees to such deposit account.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Amend claims 1-4 as follows:

1. (twice amended) An orotidine-5'-phosphate decarboxylase gene having the sequence SEQ ID NO: 1 [or its homologs] which is isolated from microorganisms [which have at least 80% homology with the sequence SEQ ID NO: 1].
2. (amended) An orotidine-5'-phosphate decarboxylase gene having the sequence SEQ ID NO: 1 [or its homologs are] which is isolated from *Ashbya gossypii*.
3. (amended) An isolated amino-acid sequence encoded by a gene or its homologs as claimed in claim 1.
4. (amended) An isolated amino-acid sequence as claimed in claim 3, which comprises an enzymatically active protein.

Add new claims 16 and 17 as follows:

16. (new) Homologs having 80% homology with the orotidine-5'-phosphate decarboxylase gene claimed in claim 1.
17. (new) Homologs of the orotidine-5'-phosphate decarboxylase gene claimed in claim 2.